AF 2612 $

PATENT
Attorney Docket No. 02100.0071-00 JFW

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	)	
	)	
James B. POPP et al.	)	Group Art Unit: 2612
	)	
Application No.: 09/837,228	)	Examiner: Benjamin C. Lee
	)	
Filed: April 19, 2001	)	Confirmation No.: 7579
	)	
For: FIRE SUPPRESSION AND INDICATOR SYSTEM AND FIRE DETECTION DEVICE	)	

Mail Stop Appeal Brief--Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

TRANSMITTAL OF APPEAL BRIEF (37 C.F.R. 41.37)

Transmitted herewith is an Appeal Brief in support of the Notice of Appeal filed on July 27, 2006.

This application is on behalf of

☐ Small Entity ☒ Large Entity

Pursuant to 37 C.F.R. 41.20(b)(2), the fee for filing the Appeal Brief is:

☐ $250.00 (Small Entity)

☒ $500.00 (Large Entity)

TOTAL FEE DUE:

Appeal Brief Fee	$500.00
Extension Fee (if any)	$ -0-
Total Fee Due	$500.00

☒ Enclosed is a check for $500.00 to cover the above fee.

PETITION FOR EXTENSION. If any extension of time is necessary for the filing of this Appeal Brief, and such extension has not otherwise been requested, such an extension is hereby requested, and the Commissioner is authorized to charge necessary fees for such an extension to our Deposit Account No. 06-0916.

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: October 2, 2006

By: _____
Christopher T. Kent
Reg. No. 48,216

PATENT
Customer No. 22,852
Attorney Docket No. 02100.0071-00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	)	
	)	
James B. POPP et al.	)	Group Art Unit: 2612
	)	
Application No.: 09/837,228	)	Examiner: Benjamin C. Lee
	)	
Filed: April 19, 2001	)	Confirmation No.: 7579
	)	
For: FIRE SUPPRESSION AND INDICATOR SYSTEM AND FIRE DETECTION DEVICE	)	

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

This is an appeal to the Board of Patent Appeals and Interferences ("the Board") from the final Office Action dated March 21, 2006 ("the Final Office Action"), finally rejecting claims 1-26, 43-58, 60, and 61 in association with the above-referenced patent application. Pursuant to 37 C.F.R. § 41.37, Appellants submit one copy of this Appeal Brief. A fee payment of $500.00 in accordance with 37 C.F.R. § 41.20(b)(2) was timely filed along with a Notice of Appeal under 37 C.F.R. § 41.31 and a Pre-Appeal Brief Request for Review on July 27, 2006. This Appeal Brief is timely filed within one month of the Notice of Panel Decision from Pre-Appeal Brief Review dated September 1, 2006.

I. Real Party in Interest

The real party in interest is Federal Express Corporation, the assignee of the entire right, title, and interest in the application.

II. Related Appeals and Interferences

Appellants, Appellants' legal representatives, and assignee are not aware of any other appeals, interferences, or judicial proceedings that may be related to, directly affect, be directly affected by, or have a bearing on the Board's decision in this appeal.

III. Status of Claims

Claims 1-26 and 41-61 are pending in this application. Claims 1-26, 43-58, 60, and 61, as set forth in the Claims Appendix, have been finally rejected in the Final Office Action, and the rejections of those claims are at issue in this appeal.

IV. Status of Amendments

No amendments under 37 C.F.R. § 1.116 have been filed subsequent to or in response to the Final Office Action.

Summary of Claimed Subject Matter

A. Independent Claim 1

The subject matter set forth in claim 1 relates to a system (100) for detecting and suppressing a fire condition in a storage unit (300) for storing freight in a storage area (210) containing a plurality of storage units (300).[1] (Page 9, line 16, through p. 10, line 3; Figs. 1, 2, and 12.) The system (100) comprises a transmitter (104) associated with each of at least some of the plurality of the storage units (300) and configured to transmit a first signal upon detection of a fire condition in a storage unit (300) experiencing the fire condition. (Page 10, lines 3-7.) The system (100) further comprises at least one receiver (106) configured to detect the first signal and configured to provide a second signal indicating detection of the fire condition in the storage unit (300) experiencing the fire condition. (Page 10, lines 8-9.) The system (100) also comprises a plurality of fire suppression devices (102), each of the fire suppression devices (102) being associated with a storage unit (300) and being configured to discharge a fire suppressant material into its associated storage unit (300) upon detection of the fire condition in its associated storage unit (300). (Page 9, lines 17-21.) The detection of the fire condition in any one of the plurality of storage units (300) does not necessarily result in discharging of fire suppressant material into others of the plurality of storage units (300). (Page 9, line 16, through p. 10, line 21.)

[1] The references to the specification and drawings in this Appeal Brief are intended to merely facilitate explaining how the originally-filed application provides exemplary embodiments and exemplary disclosure relating to the claimed subject matter. Those references should not be construed as limiting the scope of any of the claims.

B. Independent Claim 18

The subject matter set forth in claim 18 relates to a fire suppression and indication system (100) for use in an aircraft (200), the aircraft (200) having a cockpit, a control panel (230) in the cockpit, and a storage area (210). (Page 9, lines 16-22; p. 10, line 22, through p. 11, line 2; Figs. 1, 2, and 12.) The system (100) comprises a plurality of storage units (300) for storing freight. (Id.) The storage units (300) are located at predetermined positions in the storage area (210), and the storage units (300) comprise at least one of a container (300) and a pallet (410). (Page 11, lines 4-9; Fig. 12.) The system (100) further comprises a transmitter (102) associated with each storage unit (300) and configured to transmit a first signal upon detection of a fire condition, the first signal being an infrared signal. (Id.; p. 10, lines 16-17.) The system (100) also comprises at least one receiver (106) configured to detect the first signal and configured to provide a second signal indicating detection of the fire condition. (Page 10, lines 5-9.) The system (100) further includes a fire suppression device (102) configured to discharge a fire suppressant material into the storage unit (300) upon detection of the fire condition. (Page 10, lines 5-7.)

C. Independent Claim 43

The subject matter set forth in claim 43 relates to a system (100) for detecting and suppressing a fire condition in a storage unit (300) in a storage area (210). (Page 9, lines 16-21; Figs. 1, 2, and 12.) The system (100) comprises a transmitter (104) associated with the storage unit (300) and configured to transmit a first signal upon detection of the fire condition, the first signal being an infrared signal. (Page 10,

lines 1-3, 16-17.) The system (100) further comprises at least one receiver (106) configured to detect the first signal and configured to provide a second signal indicating detection of the fire condition. (Page 10, lines 3-5.) The system (100) also comprises a fire suppression device (102) configured to discharge a fire suppressant material into the storage unit (300) upon detection of the fire condition. (Page 10, lines 5-7.)

D. Independent Claim 52

The subject matter set forth in claim 52 relates to a fire suppression and indication system (100) for use in an aircraft (200), the aircraft (200) having a cockpit, a control panel (230) in the cockpit, and a storage area (210). (Page 9, lines 16-22; p. 10, line 22, through p. 11, line 2; Figs. 1,2 , and 12.) The system (100) comprises a plurality of storage units (300) for storing freight. (Id.) The storage units (300) are located at predetermined positions in the storage area (210). (Page 11, lines 4-9.) The system (100) further comprises a transmitter (104) associated with each storage unit (300) and configured to transmit a first signal upon detection of a fire condition, the first signal being an infrared signal. (Id.; p. 10, lines 16-17.) The system (100) also comprises at least one receiver (106) configured to detect the first signal and configured to provide a second signal indicating detection of the fire condition. (Page 10, lines 3-5.) The system (100) further comprises a fire suppression device (102) configured to discharge a fire suppressant material into the storage unit (300) upon detection of the fire condition. (Page 10, lines 5-8.)

E. Independent Claim 60

The subject matter set forth in claim 60 relates to a system (100) for detecting and suppressing a fire condition in a storage unit (300) for storing freight in a storage area (210) containing a plurality of storage units (300). (Page 9, lines 16-22; p. 10, line 22, through p. 11, line 2; Figs. 1, 2, and 12.) The system (100) comprises a transmitter (104) associated with each of at least some of the plurality of the storage units (300) and being configured to transmit a first signal upon detection of a fire condition in a storage unit (300) experiencing the fire condition. (Page 11, lines 4-9.) The system (100) further comprises at least one receiver (106) configured to detect the first signal and configured to provide a second signal indicating detection of the fire condition in the storage unit (300) experiencing the fire condition. (Page 10, lines 3-5.) The system (100) also comprises a plurality of fire suppression devices (102). (Page 10, lines 1-3.) At least two of the fire suppression devices (102) are associated with different storage units (300), and the fire suppression devices (102) are configured to discharge a fire suppressant material only into a storage unit (300) experiencing the fire condition. (Page 9, line 16, through p. 10, line 21.)

VI. Grounds of Rejection to be Reviewed on Appeal

Claims 1-8, 18-23, 43-49, 52-55, 60, and 61 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,058,167 to Granek et al. ("Granek") in view of WO 93/12839 to Powell et al. ("Powell").

Claims 9 and 50 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Granek in view of Powell and U.S. Patent No. 3,909,814 to Eguchi ("Eguchi").

Claims 10-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Granek in view of Powell, Eguchi, and U.S. Patent No. 4,987,958 to Fierbaugh ("Fierbaugh").

Claims 14-17 and 51 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Granek in view of Powell and U.S. Patent No. 6,032,745 to Sears ("Sears").

Claims 24-26 and 56-58 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Granek in view of Powell and U.S. Patent No. 3,848,231 to Wootton ("Wootton").

VII. Argument

Summary of Argument

The Examiner rejected claims 1-8, 18-23, 43-49, 52-55, 60, and 61 under 35 U.S.C. § 103(a) based on Granek in combination with Powell. Claims 1, 18, 43, 52, and 60 are the only independent claims rejected under § 103(a) based on the Examiner's proposed, hypothetical combination of the Granek and Powell references, and Appellants respectfully submit that the § 103(a) rejection of independent claims 1, 18, 43, 52, and 60 should be reversed because the Final Office Action fails to establish a *prima facie* case of obviousness. In particular, a person having ordinary skill in the art at the time the invention was made would not have viewed the subject matter recited in Appellants' independent claims as being obvious in view of the Granek and Powell references as a whole at least because there is no legally proper suggestion or motivation to make the Examiner's proposed, hypothetical modification to Granek's disclosure relating to fire protection systems for buildings based on Powell's disclosure relating to an apparatus for extinguishing a fire in an aircraft. Moreover, even if for the sake of argument, there was a legally proper suggestion or motivation to make the Examiner's proposed, hypothetical modification, the Examiner's combination of the Granek and Powell references fails to disclose or suggest all of the subject matter recited in each of Appellants' independent claims 1, 18, 43, 52, and 60. For at least these reasons, the § 103(a) rejection based on the Examiner's proposed, hypothetical combination of the Granek and Powell references is improper and should be reversed. Moreover, the Eguchi, Fierbaugh, Sears, and Wootton references fail to overcome the deficiencies of the Granek and Powell references.

Detailed Argument

A. The rejection of claims 1, 18, 43, 52, and 60 under 35 U.S.C. § 103(a) based on Granek in combination with Powell should be reversed

1. The Examiner has not established a *prima facie* case of obviousness at least because there is no legally sufficient suggestion or motivation to modify Granek in the Examiner's proposed, hypothetical manner based on Powell

The Examiner has failed to establish a *prima facie* case of obviousness based on Granek and Powell at least because there is no suggestion or motivation to modify the Granek reference in the Examiner's proposed, hypothetical manner based on the Powell reference.

According to the guidance of the U.S. Court of Appeals for the Federal Circuit ("the Federal Circuit"), in order to prevent the improper rejection of a claim based on statutorily proscribed hindsight reasoning, there must be some suggestion or motivation in the prior art to modify a reference or to combine reference teachings. See Alza Corp. v. Mylan Labs, Inc., No. 06-1019, slip op. at 4-6 (Fed. Cir. Sept. 6, 2006). In particular, "[t]he teaching or suggestion to make the claimed combination . . . must . . . be found in the prior art, not in applicant's disclosure." Id. (citing In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991)). Furthermore, according to the Federal Circuit's guidance, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." M.P.E.P. § 2143.01 (citing In re Mills, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990)) (emphasis in original).

In the Office Action dated June 28, 2005 ("the Office Action"), the Examiner interprets the Granek reference as disclosing, among other things,

> a system for detecting and suppressing a fire condition in a storage unit (compartment or room in Fig. 1 capable of storage) for storing objects in a storage area containing a plurality of storage units (facility/complex as a whole shown in Fig. 1), the system comprising: a transmitter (16 and col. 4, lines 30-36) associated with each of at least some of the plurality of storage units . . . ; at least one receiver (48 and col. 4, lines 37-40) configured to detect a first signal and configured to provide a second signal . . . ; and a plurality of fire suppression devices (14) . . . , wherein detection of the fire condition in any one of the plurality of storage units does not necessarily result in discharging of fire suppressant material into others of the plurality of storage units (col. 4, lines 50-52 and col. 5, lines 4-19) . . . .

Office Action at 2-3. The Examiner concedes that Granek does not disclose "that the stored objects are freight." Id. at 3. Improperly relying on hindsight reasoning, however, the Examiner nevertheless concludes that "it would have been obvious . . . to apply the storage-units fire detection/extinguishing system of Granek et al. to a cargo storage area for storing freight such as taught by Powell et al. as a known intended use." Id.

Appellants' respectfully submit that there is no reason someone in Granek's art relating to fire protection in buildings would look to Powell's system for extinguishing and controlling fires in an aircraft cargo area, for solving a fictitious problem invented by the Examiner. Indeed, neither Granek nor Powell provides any suggestion or motivation in support of the Examiner's unsupported conclusion that "it would have been obvious . . . to apply the storage-units fire detection/extinguishing system of Granek et al. to a cargo storage area for storing freight such as taught by Powell et al. as a known intended use." Office Action at 3.

Granek discloses a fire protection apparatus for "small or medium-sized premises such as residential apartments and office premises." (Col. 1, lines 6 and 12-14.) The apparatus comprises two lengths of multi-compartmental conduit 11 and 12, which extend from a common water-supply manifold 13 horizontally through the rooms of the apartment. (Col. 2, lines 33-37.) Nozzles 14 are connected at intervals along the conduit, and each of the nozzles 14 is directed into the interior of a different respective area or room of the apartment. (Col. 2, lines 37-40.) Associated with each nozzle 14, there is a fire hazard detector 16, which is arranged centrally in the room or area toward which the nozzle 14 is directed. (Col. 2, lines 41-43.) The manifold 13 includes manifold outlets 42, and each of the manifold outlets 42 is equipped with an on-off valve 47. (Col. 4, lines 5-6, 17-18.) The valves 47 are electrically operated and can be conventional solenoid-operated valves. (Col. 4, lines 17-20.) Each of the valves 47 is operatively linked through a control system to a respective fire hazard detector 16, so that when a detector 16 is activated through detection of flame, heat, smoke, or other combustion product, the particular solenoid valve 47 operatively linked thereto is opened to allow flow of water selectively to the respective nozzle 14 associated with the detector 16, which has been activated. (Col. 4, lines 20-29.) In other words, rather than disclosing or suggesting fire suppression devices associated with "a storage unit for storing freight in a storage area containing a plurality of storage units," for example, as recited in Appellants' independent claim 1, Granek discloses subject matter that concerns individual rooms in an apartment building.

In contrast to Granek's disclosure relating to rooms in an apartment building, Powell's disclosure relates to an apparatus and method for extinguishing or controlling

fires in an aircraft cargo bay area. The Examiner has not provided any prior art evidence that purportedly explains why an artisan skilled in Granek's field of fire protection apparatuses for "small or medium-sized premises such as residential apartments and office premises" would look to the Powell reference relating to the field of apparatuses and methods for extinguishing fires in an aircraft cargo bay area.

In response to Appellants' written remarks included in the Amendment filed December 28, 2005 ("the Amendment") explaining why the claim rejection based on Granek and Powell is improper, the Examiner apparently concedes that Granek does not disclose storage units and asserts that recitations in Appellants' claims relating to the storage units merely constitute a statement of intended use. See Final Office Action at 3. The Examiner thereafter relies on his "intended use" assertion to further allege that apartments in a building are analogous to storage units in a storage area, and that incorporating the system for suppressing fires in apartments of a building as disclosed in Granek into a storage area containing storage units is an obvious intended use for the Granek system. Id. The Examiner further asserts that Powell's disclosure relating to extinguishing and controlling fires in an aircraft cargo bay area purportedly supports his obvious intended use assertion. Id.

Appellants respectfully submit that the Examiner's assertions do not cure the improper nature of the § 103(a) claim rejection based on Granek and Powell. First, concerning the Examiner's intended use assertion, independent claims 18 and 52 positively recite "a plurality of storage units" in the body of those claims. For at least this reason, the "storage units" recited in independent claims 18 and 52 are not merely part of an intended use statement. Moreover, even though the bodies of independent

claims 1, 43, and 60 do not expressly recite the term "storage units," the preambles of those claims recite a "storage unit," and the bodies of those claims relate positively-recited subject matter to the "storage unit" recited in the preamble. According to prevailing Federal Circuit precedent, the "storage unit" subject matter recited in the preamble and referred to in the body of the claim cannot be interpreted as a statement of intended use for the purpose of ignoring that subject matter relative to the prior art. See Catalina Marketing Int'l, Inc. v. Coolsavings.com Inc., 289 F.3d 801, 808, 62 U.S.P.Q.2d 1781, 1785 (Fed. Cir. 2002) (citation omitted). Thus, the Examiner's intended use assertion is inaccurate and thus does not cure the improper nature of the § 103(a) rejection based on Granek and Powell.

Furthermore, the Examiner's asserted analogies concerning apartments/storage units and buildings/cargo areas are inapposite for a number of reasons. For example, apartments are not moved into and out of a building, whereas storage units for storing freight in a cargo area are typically moved into and out of cargo areas. Granek's system, which includes conduits leading to nozzles within apartments could not be used in a storage unit that is removed from a cargo area, since the conduits and attached nozzles would prevent or greatly inhibit movement of the storage unit from the cargo area. Moreover, the Examiner's assertion about an apartment building being analogous to a cargo area is inaccurate at least because apartment buildings are not intended to transport apartments from one location to another, whereas cargo areas are typically used to transport storage units. Thus, Granek's fire extinguishing system, which is incorporated into an apartment building, is not intended to address technical issues (e.g., such as portability, weight, bulk, durability, operation with movable storage units,

etc.) that may be related to efficient movement of storage units associated with cargo vehicles. For at least these reasons, one of ordinary skill in the art would not have considered the Examiner's asserted analogies as being relevant with respect to the present application, and the proposed, hypothetical combination of Granek. and Powell is legally improper.

For at least the above-outlined reasons, the Examiner has failed to establish a *prima facie* case of obviousness at least because the Examiner has not identified any prior art evidence, which provides a legally proper motivation or suggestion for combining the Granek and Powell references in the Examiner's proposed, hypothetical manner. Thus, the Examiner's proposed combination appears be improperly relying on hindsight reasoning and Appellants' disclosure in order to selectively distort the teachings of the Granek and Powell references as a whole for the sole purpose of rejecting Appellants' claims.

2. The Examiner has failed to establish a *prima facie* case of obviousness at least because the Granek and Powell references, viewed individually or in combination, fail to disclose or suggest all of the subject matter recited in each of Appellants' independent claims 1, 18, 43, 52, and 60

Even if for the sake of argument, there is a legally proper motivation or suggestion to combine the Granek and Powell references in the Examiner's proposed hypothetical manner, Granek and Powell, even when combined, fail to disclose or suggest all of the subject matter recited in each of Appellants' independent claims 1, 18, 43, 52, and 60.

a. Independent Claim 1

Appellants' independent claim 1 recites "[a] system for detecting and suppressing a fire condition in a storage unit for storing freight in a storage area containing a plurality of storage units, the system comprising: . . . a plurality of fire suppression devices . . . being configured to discharge a fire suppressant material into [an] associated storage unit upon detection of the fire condition in [the] associated storage unit . . . ." The Granek and Powell references, regardless of whether they are viewed individually or in combination, fail to disclose or suggest at least that subject matter recited in Appellants' independent claim 1.

In order to establish that a claim is *prima facie* obvious, a reference, or combination of references, must disclose or suggest all of the subject matter recited in the claim. M.P.E.P. § 2143. Since the Final Office Action's proposed, hypothetical combination of the Granek and Powell references does not disclose or suggest all of the subject matter recited in Appellants' independent claim 1, independent claim 1 is not *prima facie* obvious based on any combination of those references.

In the Office Action dated June 28, 2005 ("the Office Action"), the Examiner interprets the Granek reference as disclosing, among other things,

> a system for detecting and suppressing a fire condition in a storage unit (compartment or room in Fig. 1 capable of storage) for storing objects in a storage area containing a plurality of storage units (facility/complex as a whole shown in Fig. 1), the system comprising: . . . a plurality of fire suppression devices (14) . . . .

Office Action at 2-3. The Examiner concedes that Granek does not disclose "that the stored objects are freight." Id. at 3. The Examiner concludes, however, that "it would have been obvious . . . to apply the storage-units fire detection/extinguishing system of

Granek et al. to a cargo storage area for storing freight such as taught by Powell et al. as a known intended use." Id.

Appellants respectfully disagree with the Examiner's interpretation of Granek and his obviousness conclusion. The Granek reference does not disclose, among other subject matter, "[a] system for detecting and suppressing a fire condition in a storage unit for storing freight in a storage area containing a plurality of storage units, the system comprising: . . . a plurality of fire suppression devices . . . being configured to discharge a fire suppressant material into [an] associated storage unit upon detection of the fire condition in [the] associated storage unit . . . .," as recited in claim 1.

Rather, as outlined above, Granek discloses a fire protection apparatus for "small or medium-sized premises such as residential apartments and office premises." (Col. 1, lines 6 and 12-14.) In other words, rather than disclosing or suggesting fire suppression devices associated with "a storage unit for storing freight in a storage area containing a plurality of storage units," as recited in Appellants' independent claim 1, Granek discloses subject matter that concerns individual rooms in an apartment building.

During an interview with the Examiner conducted on November 16, 2005, the Examiner indicated that he is interpreting the "storage unit" recitation "broadly," and that he believes the individual rooms of the apartment building are "storage units" and that the apartment building is a "storage area containing a plurality of storage units." Appellants respectfully submit that such a "broad[]" interpretation is improper, particularly in light of how "storage unit" and "storage area" are used in the present application's specification. See, e.g., p. 2, lines 9-12; p. 3, lines 8-9; p. 4, lines 4-5; p. 9, lines 19-22, 19-22; p. 10, lines 1-3 (reciting examples of "storage units" and "storage

areas," including "containers," "pallets," "ULD[s]," "freight containers," "pallets loaded with freight," and "cargo area[s]"). Simply stated, Granek's rooms in an apartment building are not "storage unit[s] for storing freight in a storage area containing a plurality of storage units," as recited in Appellants' independent claim 1.

Like the Granek reference, the Powell reference fails to disclose or suggest "[a] system for detecting and suppressing a fire condition in a storage unit for storing freight in a storage area containing a plurality of storage units, the system comprising: . . . a plurality of fire suppression devices . . . being configured to discharge a fire suppressant material into [an] associated storage unit upon detection of the fire condition in [the] associated storage unit," as recited in independent claim 1. Rather, Powell discloses an apparatus for extinguishing or controlling fires in the cargo bay of an aircraft, but does not disclose or suggest "detecting and suppressing a fire condition in a storage unit for storing freight in a storage area containing a plurality of storage units . . . ."

For at least the above-outlined reasons, neither Granek nor Powell discloses or suggests all of the subject matter recited in Appellants' independent claim 1. Thus, even if for the sake of argument there was a legally sufficient suggestion or motivation for combining the teachings of Granek and Powell, the combination of those teachings fails to disclose or suggest all of the subject matter recited in independent claim 1. As a result, the Examiner has failed to establish that independent claim 1 is *prima facie* obvious based on Granek and Powell.

b. Independent Claim 18

Appellants' independent claim 18 recites a fire suppression system for use in an aircraft, the system including, among other recitations, "a plurality of storage units . . .

being located at predetermined positions in [a] storage area, the storage units comprising at least one of a container and a pallet; . . . and a fire suppression device configured to discharge a fire suppressant material into the storage unit upon detection of [a] fire condition." For at least reasons similar to those outlined above with respect to independent claim 1, the Granek and Powell references do not disclose or suggest at least that subject matter recited in independent claim 18. Furthermore, Granek and Powell do not disclose suggest "storage units comprising at least one of a container and a pallet . . . ."

Appellants' independent claim 18 also recites "a transmitter associated with each storage unit and configured to transmit a first signal upon detection of a fire condition, the first signal being an infrared signal . . . ." Neither Granek nor Powell discloses or suggests at least that subject matter recited in independent claim 18.

In the Office Action dated June 28, 2005, the Examiner concedes that neither Granek nor Powell discloses or suggests that the alleged "first signal is infrared." Office Action at 6. The Examiner nevertheless concluded that "[w]hile Granek teaches using ultrasonic or radio frequency signals, it would have been obvious . . . that other wireless links, including an infrared link, can be used in a system such as taught by Granek et al. and Powell et al. without unexpected results, whereby infrared can specifically be chosen if radio or ultrasonic interference may be a potential problem in the application environment." Id.

In response to Appellants' written remarks included in the Amendment filed December 28, 2005 concerning how neither Granek nor Powell discloses or suggests the above-outlined subject matter relating to infrared signals, the Examiner cites

U.S. Patent No. 5,880,867 to Ronald ("Ronald") in alleged support of his obviousness assertion. Final Office Action at 4. In particular, the Examiner asserts that Ronald purportedly discloses that "use of infrared signals as opposed to radio signals in an aircraft environment to reduce interference is well known in the art and therefore its use is obvious in Granek et al. when used in an aircraft environment vulnerable to signal interference." Id.

Appellants respectfully disagree with the Examiner's assertion concerning the alleged obviousness of infrared signals for a number of reasons. For example, Granek does not relate to "an aircraft environment." Rather, Granek relates to a building. Thus, one of ordinary skill in the art considering Granek would have had no motivation to use infrared signals to reduce interference in an aircraft environment. Further, Ronald does not disclose using infrared signals in association with a system for detecting and suppressing fires. Rather, Ronald discloses permitting passengers to maintain communication with one another during flight via infrared transmissions.

Appellants' recited system, which is configured to transmit an infrared signal from a transmitter associated with each storage unit, is one particular novel and non-obvious exemplary configuration that enables a fire detection and suppression system to be used in an aircraft cargo area environment. The recited system overcomes deficiencies in the prior art and solves a long-felt but unmet need in the art. Thus, there is nothing in the prior art that would render the subject matter recited in independent claim 18 obvious, and there is no suggestion, teaching, or motivation in either Granek or Ronald to use infrared signals in association with a system for detecting and suppressing fires in "an aircraft environment," as asserted by the Examiner.

For reasons at least similar to those outlined previously herein, the subject matter recited in Appellants' independent claim 18 is neither disclosed nor suggested by the Granek and Powell references, regardless of whether they are viewed individually or as whole. First, there is no legally proper motivation or suggestion to make the Examiner's proposed modification to Granek's disclosure relating to apartment buildings based on Powell's disclosure relating to aircraft. Second, even if hypothetically an artisan skilled in Granek's apartment building art were to have looked to Powell's aircraft art, the Examiner's proposed, hypothetical combination of those references fails to disclose or suggest all of the subject matter recited in Appellants' independent claim 18. For at least these reasons, Appellants' independent claim 18 is patentably distinguishable from Granek and Powell, and the rejection should be reversed.

c. Independent Claim 43

Appellants' independent claim 43 recites a system for detecting and suppressing a fire condition in a storage unit in a storage area, the system including, among other recitations, "a transmitter associated with the storage unit and configured to transmit a first signal upon detection of the fire condition, wherein the first signal is an infrared signal." For reasons at least similar to those outlined previously herein with respect to independent claim 1 and independent claim 18, the Granek and Powell references do not disclose or suggest at least that subject matter recited in independent claim 43. Therefore, the § 103(a) rejection of independent claim 43 based on Granek and Powell should be reversed.

d. Independent Claim 52

Appellants' independent claim 52 recites a fire suppression and indication system for use in an aircraft having a storage area, the system including, among other recitations, "a plurality of storage units for storing freight, the storage units being located at predetermined positions in the storage area; [and] a transmitter associated with each storage unit and configured to transmit a first signal upon detection of a fire condition, wherein the first signal is an infrared signal . . . ." For reasons at least similar to those outlined previously herein with respect to independent claim 1 and independent claim 18, the Granek and Powell references do not disclose or suggest at least that subject matter recited in independent claim 52. Therefore, the § 103(a) rejection of independent claim 52 based on Granek and Powell should be reversed.

e. Independent Claim 60

Appellants' independent claim 60 recites a system for detecting and suppressing a fire condition in a storage unit for storing freight in a storage area containing a plurality of storage units, the system including, among other recitations, "a plurality of fire suppression devices, wherein at least two of the fire suppression devices are associated with different storage units, and wherein the fire suppression devices are configured to discharge a fire suppressant material only into a storage unit experiencing the fire condition." For reasons at least similar to those outlined previously herein with respect to independent claim 1, the Granek and Powell references do not disclose or suggest at least that subject matter recited in independent claim 60. Therefore, the

§ 103(a) rejection of independent claim 60 based on Granek and Powell should be reversed.

B. The rejection of claims 9 and 50 under 35 U.S.C. § 103(a) based on Granek in combination with Powell and Eguchi should be reversed

Claims 9 and 50 depend from independent claims 1 and 43, respectively, so they should be allowable for at least the same reasons independent claims 1 and 43 are allowable

In the Final Office Action, the Examiner rejected claims 9 and 50 under 35 U.S.C. § 103(a) based on based on Granek in combination with Powell and Eguchi. Final Office Action at 2. Claims 9 and 50 depend from allowable independent claims 1 and 43, respectively. Therefore, those dependent claims should be allowable for at least the same reasons independent claims 1 and 43 are allowable. Furthermore, the Eguchi reference does not overcome the above-outlined deficiencies of the Granek and Powell references. Therefore, Appellants respectfully request reversal of the rejection of claims 9 and 50 under 35 U.S.C. § 103(a) based on Granek in combination with Powell and Eguchi.

C. The rejection of claims 10-13 under 35 U.S.C. § 103(a) based on Granek in combination with Powell, Eguchi, and Fierbaugh should be reversed

Claims 10-13 ultimately depend from independent claim 1, so they should be allowable for at least the same reasons independent claim 1 is allowable

In the Final Office Action, the Examiner rejected claims 10-13 under 35 U.S.C. § 103(a) based on based on Granek in combination with Powell, Eguchi, and Fierbaugh. Final Office Action at 2. Claims 10-13 depend from allowable independent claim 1.

Therefore, dependent claims 10-13 should be allowable for at least the same reasons independent claim 1 is allowable. Furthermore, the Eguchi and Fierbaugh references do not overcome the above-outlined deficiencies of the Granek and Powell references. Therefore, Appellants respectfully request reversal of the rejection of claims 10-13 under 35 U.S.C. § 103(a) based on Granek in combination with Powell, Eguchi, and Fierbaugh.

D. The rejection of claims 14-17 and 51 under 35 U.S.C. § 103(a) based on Granek in combination with Powell and Sears should be reversed

Claims 14-17 and 51 ultimately depend from independent claims 1 and 43, respectively, so they should be allowable for at least the same reasons independent claims 1 and 43 are allowable

In the Final Office Action, the Examiner rejected claim 14-17 and 51 under 35 U.S.C. § 103(a) based on based on Granek in combination with Powell and Sears. Final Office Action at 2. Claims 14-17 and 51 ultimately depend from allowable independent claims 1 and 43, respectively. Therefore, those dependent claims should be allowable for at least the same reasons independent claims 1 and 43 are allowable. Furthermore, the Sears reference does not overcome the above-outlined deficiencies of the Granek and Powell references. Therefore, Appellants respectfully request reversal of the rejection of claims 14-17 and 51 under 35 U.S.C. § 103(a) based on Granek in combination with Powell and Sears.

E. The rejection of claims 24-26 and 56-58 under 35 U.S.C. § 103(a) based on Granek in combination with Powell and Wootton should be reversed

Claims 24-26 and 56-58 ultimately depend from independent claims 18 and 52, respectively, so they should be allowable for at least the same reasons independent claims 18 and 52 are allowable

In the Final Office Action, the Examiner rejected claim 24-26 and 56-58 under 35 U.S.C. § 103(a) based on based on Granek in combination with Powell and Wootton. Final Office Action at 2. Claims 24-26 and 56-58 ultimately depend from allowable independent claims 18 and 52, respectively. Therefore, those dependent claims should be allowable for at least the same reasons independent claims 18 and 52 are allowable. Furthermore, the Wootton reference does not overcome the above-outlined deficiencies of the Granek and Powell references. Therefore, Appellants respectfully request reversal of the rejection of claims 24-26 and 56-58 under 35 U.S.C. § 103(a) based on Granek in combination with Powell and Wootton.

F. Conclusion

For at least the reasons outlined above, Appellants respectfully submit that independent claims 1, 18, 43, 52, and 60 are allowable. Furthermore, since each of dependent claims 2-17, 19-26, 44-51, 53-58, and 61 ultimately depends from a corresponding one of independent claims 1, 18, 43, 52, and 60, each of those dependent claims is allowable for at least the same reasons as the claim(s) from which they depend. Therefore, Appellants respectfully request that the Board of Patent Appeals and Interferences reverse the outstanding claim rejections and permit allowance of all of pending claims 1-26 and 41-61.

To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this Appeal Brief, such extension is hereby respectfully requested. If there are any fees due which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: October 2, 2006

By: _____
Christopher T. Kent
Reg. No. 48,216

Finnegan, Henderson, Farabow,
Garrett & Dunner, L.L.P.
Customer No. 22,852

VIII. Claims Appendix

1. A system for detecting and suppressing a fire condition in a storage unit for storing freight in a storage area containing a plurality of storage units, the system comprising:

a transmitter associated with each of at least some of the plurality of the storage units and configured to transmit a first signal upon detection of a fire condition in a storage unit experiencing the fire condition;

at least one receiver configured to detect the first signal and configured to provide a second signal indicating detection of the fire condition in the storage unit experiencing the fire condition; and

a plurality of fire suppression devices, each of the fire suppression devices being associated with a storage unit and being configured to discharge a fire suppressant material into its associated storage unit upon detection of the fire condition in its associated storage unit,

wherein detection of the fire condition in any one of the plurality of storage units does not necessarily result in discharging of fire suppressant material into others of the plurality of storage units.

2. A system according to claim 1, wherein there are a plurality of storage units, a plurality of transmitters, and a plurality of receivers, and wherein an individual transmitter and an individual receiver are associated with each of the plurality of storage units.

3. A system according to claim 2, wherein each of the storage units is located at a predetermined position relative to the individual receiver associated with the storage unit.

4. A system according to claim 3, wherein the second signal from a receiver is provided to a control panel that in response to the second signal identifies the storage unit experiencing the fire condition.

5. A system according to claim 2, wherein at least some of the storage units are containers.

6. A system according to claim 2, wherein at least some of the storage units are pallets including blankets for storing the freight.

7. A system according to claim 1, wherein the fire suppression device comprises a pressurized vessel located within the storage unit, the vessel containing the fire suppressant material within the vessel; and

a fire detection component that activates the discharge of the fire suppressant material into the storage unit upon detection of a fire condition.

8. A system according to claim 1, wherein the first signal is an infrared signal.

9. A system according to claim 1, wherein the transmitter includes a bimetallic switch configured to close upon detection of the fire condition.

10. A system according to claim 9, wherein the bimetallic switch is in contact with a surface of the storage unit.

11. A system according to claim 9, wherein the bimetallic switch extends through a surface of the storage unit.

12. A system according to claim 11, wherein the surface is a cover for the storage unit.

13. A system according to claim 11, wherein the surface is a fire resistant blanket.

14. A system according to claim 2, where the fire suppression device includes a source of pressurized fire suppressant material and a popup device disposed between one of the storage units and the source, the popup device being configured to apply the fire suppressant material to the storage unit upon detection of the fire condition.

15. A system according to claim 14, wherein a storage unit is a container with a base including a hole, and the popup device includes a valve aligned with the hole, such that the fire suppressant material is discharged into the container through the hole in the base.

16. A system according to claim 14, further comprising a control unit configured to detect the second signal and transmit an activation signal to the popup device upon detecting the second signal.

17. A system according to claim 16, further comprising a control panel having a warning indicator, wherein the control unit transmits an alert signal to the warning indicator on the panel.

18. A fire suppression and indication system for use in an aircraft, the aircraft having a cockpit, a control panel in the cockpit, and a storage area, the system comprising:

a plurality of storage units for storing freight, the storage units being located at predetermined positions in the storage area, the storage units comprising at least one of a container and a pallet;

a transmitter associated with each storage unit and configured to transmit a first signal upon detection of a fire condition, the first signal being an infrared signal;

at least one receiver configured to detect the first signal and configured to provide a second signal indicating detection of the fire condition; and

a fire suppression device configured to discharge a fire suppressant material into the storage unit upon detection of the fire condition.

19. A system according to claim 18, wherein the fire suppression device includes a source of pressurized fire suppressant material and an application mechanism associated with one of the predetermined positions, the application mechanism being arranged between one of the storage units and the source and configured to apply the fire suppression device to the storage unit upon detection of the fire condition.

20. A system according to claim 19, wherein at least one of the storage unit is a container with a base including a hole, and the application mechanism includes a valve aligned with the hole, such that the fire suppressant material is discharged into the container through the hole in the base.

21. A system according to claim 20, wherein the valve is in a retracted position prior to detection of the fire condition, and the valve is configured to engage the base of the container upon detection of the fire condition.

22. A system according to claim 21, wherein the application mechanism includes a piston to move the valve into contact with the base.

23. A system according to claim 18, wherein at least one of the storage units is a pallet including a fire resistant blanket, and wherein the fire suppression device is arranged below the fire resistant blanket.

24. A system according to claim 18, further comprising a control unit configured to receive the second signal, wherein the control unit is configured to determine the origin of the first signal based on the second signal.

25. A system according to claim 24, wherein the control unit transmits a third signal to a control panel indicating the origin of the first signal.

26. A system according to claim 25, wherein the control unit transmits a fourth signal to the fire suppression device to discharge the fire suppressant material into the storage unit.

Claims 27-40 (Canceled).

41. (Allowed) A fire suppression and indication system for use in an aircraft, the aircraft having a cockpit, a control panel in the cockpit, and a storage area, the system comprising:

a plurality of containers in the storage area, wherein each container includes a base and a cover having an opening;

a fire suppression device located inside each of the containers, the fire suppression device comprising

a vessel;

a fire suppressant material inside the vessel;

a discharge tube attached to the vessel;

a fire detection system that detects a fire condition and activates the discharge of fire suppression material through the discharge tube; and

a transmitter that emits a first signal through the opening when the fire detection system releases the fire suppressant material; and

a receiver configured to be positioned within the storage area and external to the containers,

wherein the receiver is configured to detect the first signal and send a second signal to the control panel in the cockpit of the aircraft.

42. (Allowed) A system according to claim 41, wherein the receiver is configured to be located above a corresponding one of the containers.

43. A system for detecting and suppressing a fire condition in a storage unit in a storage area, the system comprising:

a transmitter associated with the storage unit and configured to transmit a first signal upon detection of the fire condition, wherein the first signal is an infrared signal;

at least one receiver configured to detect the first signal and configured to provide a second signal indicating detection of the fire condition; and

a fire suppression device configured to discharge a fire suppressant material into the storage unit upon detection of the fire condition.

44. A system according to claim 43, wherein there are a plurality of storage units, a plurality of transmitters, and a plurality of receivers, and wherein an individual transmitter and an individual receiver are associated with each of the plurality of storage units.

45. A system according to claim 44, wherein each of the storage units is located at a predetermined position relative to the individual receiver associated with the storage unit.

46. A system according to claim 45, wherein the second signal from a receiver is provided to a control panel that in response to the second signal identifies the storage unit experiencing the fire condition.

47. A system according to claim 44, wherein at least some of the storage units are containers.

48. A system according to claim 44, wherein at least some of the storage units are pallets including blankets for storing freight.

49. A system according to claim 43, wherein the fire suppression device comprises a pressurized vessel located within the storage unit, the vessel containing the fire suppressant material within the vessel; and

a fire detection component that activates the discharge of the fire suppressant material into the storage unit upon detection of a fire condition.

50. A system according to claim 43, wherein the transmitter includes a bimetallic switch configured to close upon detection of the fire condition.

51. A system according to claim 44, where the fire suppression device includes a source of pressurized fire suppressant material and a popup device disposed between one of the storage units and the source, the popup device being configured to apply the fire suppressant material to the storage unit upon detection of the fire condition.

52. A fire suppression and indication system for use in an aircraft, the aircraft having a cockpit, a control panel in the cockpit, and a storage area, the system comprising:

a plurality of storage units for storing freight, the storage units being located at predetermined positions in the storage area;

a transmitter associated with each storage unit and configured to transmit a first signal upon detection of a fire condition, wherein the first signal is an infrared signal;

at least one receiver configured to detect the first signal and configured to provide a second signal indicating detection of the fire condition; and

a fire suppression device configured to discharge a fire suppressant material into the storage unit upon detection of the fire condition.

53. A system according to claim 52, wherein the fire suppression device includes a source of pressurized fire suppressant material and an application mechanism associated with one of the predetermined positions, the application mechanism being arranged between one of the storage units and the source and configured to apply the fire suppression device to the storage unit upon detection of the fire condition.

54. A system according to claim 53, wherein at least one of the storage units is a container with a base including a hole, and wherein the application mechanism includes a valve aligned with the hole, such that the fire suppressant material is discharged into the container through the hole in the base.

55. A system according to claim 52, wherein the storage unit is a pallet including a fire resistant blanket, and wherein the fire suppression device is arranged below the fire resistant blanket.

56. A system according to claim 52, further comprising a control unit configured to receive the second signal, wherein the control unit is configured to determine the origin of the first signal based on the second signal.

57. A system according to claim 56, wherein the control unit transmits a third signal to a control panel indicating the origin of the first signal.

58. A system according to claim 57, wherein the control unit transmits a fourth signal to the fire suppression device to discharge the fire suppressant material into the container.

59. (Allowed) An aircraft comprising:

a cockpit;

a control panel located in the cockpit;

a storage area; and

the fire suppression and indication system of claim 41.

60. A system for detecting and suppressing a fire condition in a storage unit for storing freight in a storage area containing a plurality of storage units, the system comprising:

a transmitter associated with each of at least some of the plurality of the storage units and being configured to transmit a first signal upon detection of a fire condition in a storage unit experiencing the fire condition;

at least one receiver configured to detect the first signal and configured to provide a second signal indicating detection of the fire condition in the storage unit experiencing the fire condition; and

a plurality of fire suppression devices,

wherein at least two of the fire suppression devices are associated with different storage units, and

wherein the fire suppression devices are configured to discharge a fire suppressant material only into a storage unit experiencing the fire condition.

61. The system of claim 60, wherein the first signal comprises an infrared signal and the second signal comprises a signal transmitted via hard wire.

IX. Evidence Appendix

None

X. Related Proceedings Appendix

None